Forward Deployed Engineering

Alation User Documentation

Oct 23, 2024

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CHAPTER

ONE

ABOUT FDE

Welcome to the Forward Deployed Engineering (FDE) product documentation! FDE product offerings are designed to enhance Alation capabilities and accelerate your time-to-business value. There are three FDE product offerings:

- *Enhanced Connectors* - Connect to data sources that are not within the scope of the Support Matrices
- *Alation Automation Bots* - Specialized automation applications that help eliminate manual, repetitive tasks
- OCF SDK Training and support - Allows customers to build custom OCF connectors

Each FDE offering provides an overview and detailed steps for setup and configuration. If you have any questions or need help resolving an issue, contact FDE Support.

In this section:

1.1 FDE Product Support

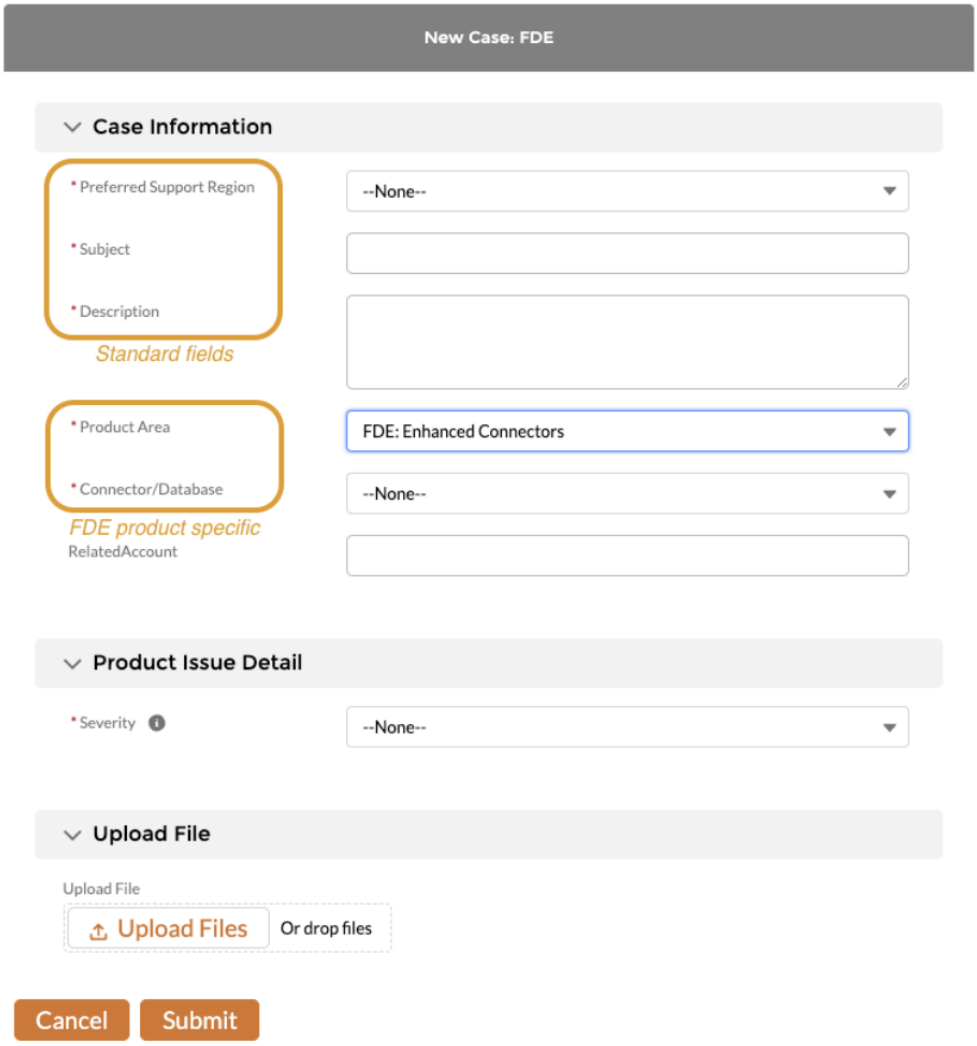
All FDE offerings are supported by the global FDE team. If you've purchased an FDE offering and have an active FDE product subscription, connect directly with FDE Support by creating an FDE case.

Creating an FDE case is easy! Follow the standard case creation process and select the case record type named **FDE**, which will appear when creating a case.

On this **New Case** form, there are standard fields and fields specific to FDE products:

- **Standard fields:**
  - Preferred Support Region
  - Subject
  - Description
- **Fields specific to FDE offerings:**

- Product Area - This field is limited to FDE products
- Connector/Database - This field will appear when “FDE: Enhanced Connector” is selected as the **Product Area**. The values are limited to released Enhanced Connectors.



If you cannot find the **Product Area** or **Connector/Database** relevant to your issue, cancel and create a new case with the **Product Issue** case type.

Important: Following your ticket priority definitions, FDE products and services will fall within priority two to priority four definitions.

CHAPTER

TWO

ENHANCED CONNECTORS

Alation Cloud Service | Customer Managed

This section provides guidance on installing and configuring **Enhanced Connectors**, which provide connectivity to source systems not covered by the connectors in the Alation Support Matrices. Enhanced connectors are supported by the **Forward Deployed Engineering** team in collaboration with our partners.

Note: Enhanced connectors are available for both Alation Cloud Service and customer-managed instances. The Alation Agent is required for all ACS customers.

In this section:

2.1 AWS QuickSight Enhanced Connector

Alation Cloud Service | Customer Managed

This section contains topics that explain how to install and configure the AWS QuickSight enhanced connector:

2.1.1 Overview

Alation Cloud Service | Customer Managed

To get the enhanced connector for AWS QuickSight, contact the Forward Deployed Engineering team at Alation.

The connector should be used to extract AWS QuickSight objects, such as datasources, datasets, dashboards, and analyses. After extraction, users will be able to search and find AWS QuickSight objects through the Alation catalog, as well as use the full set of features that Alation offers for BI sources.

The connector is compatible with Alation version **2022.4.2** or newer.

Team

The following administrators are required to install this connector:

- AWS QuickSight administrator:
  - Creates an IAM user and roles to authorize read-only access to the data
  - Assists in collecting the necessary configuration information from AWS
- Alation Server Admin:
  - Installs the connector
  - Creates an AWS QuickSight BI source
  - Configures the AWS QuickSight BI source

Scope

The table below lists the features supported by the AWS QuickSight enhanced connector.

Feature	Scope	Availability
Authentication		
Basic Authentication	Authentication using an Identity and Access Management (IAM) user account	Yes
Metadata Extraction (MDE)		
Default MDE	• Selective extraction • Full extraction	Yes
Lineage		
Automatic lineage generation	Automatic lineage generation based on extracted metadata	Yes

Object Mapping

AWS QuickSight Object	Alation Object
Datasource	BI Folder
Dataset	BI Datasource
Analysis	BI Report
Dashboard	BI Report

2.1.2 Prerequisites

Alation Cloud Service **Customer Managed**

Alation Agent

The Alation Agent is required for all ACS customers.

Create a Service Account

The enhanced connector for AWS QuickSight supports basic authentication.

Basic authentication requires an AWS IAM user and the access key ID and secret access key for this user.

Before you install and configure the enhanced connector for AWS QuickSight, create an AWS IAM user account for Alation and save the values of the access key ID, secret access key, AWS region, and AWS account ID. You will need to provide them in Alation when configuring the connection to AWS QuickSight.

Ensure that you grant the required permissions to the IAM user.

Permissions for the Service Account

Grant the IAM user account the required permissions by creating and attaching the following policy:

- A policy for the QuickSight service with these permissions:
  - `quicksight:ListUsers`
  - `quicksight:ListFolders`
  - `quicksight:DescribeFolder`
  - `quicksight:ListFolderMembers`
  - `quicksight:DescribeDataSet`
  - `quicksight:DescribeDataSource`
  - `quicksight:DescribeDashboard`
  - `quicksight:DescribeAnalysis`

2.1.3 Set Up the AWS QuickSight OCF Connector

Alation Cloud Service | Customer Managed

After fulfilling the *Prerequisites*, install the connector in Alation and create an AWS QuickSight BI source.

The steps below require the *Server Admin* role.

Install the Connector

Customer-Managed Instances

Installation of enhanced connectors on customer-managed instances requires Alation Connector Manager to be installed as a prerequisite. To install a connector:

1. If this has not been done on your instance, install and configure the Alation Connector Manager: /sources/OpenConnectorFramework/OCFInstallAlationConnectorManager.
2. Ensure that the connector Zip file you received from Alation is available on your local machine.
3. Install the connector on the **Connectors Dashboard** page using the steps in /sources/OpenConnectorFramework/ManageConnectors/index.

Alation Cloud Service Instances

On Alation Cloud Service instances, in some cases you may need to use the Alation Agent to install connectors and connect to sources. The need to use the Alation Agent to install connectors and establish connections to sources is determined by your organization's network architecture and security policies.

The connector for AWS QuickSight does not require the Alation Agent, as it involves a connection to an AWS cloud service. However, under certain specific conditions determined by your network architecture, the use of the Alation Agent may be an option.

Connection Without Agent

To install a connector:

1. Ensure that the connector Zip file you received from Alation is available on your local machine.
2. Install the connector on the **Connectors Dashboard** page using the steps in /sources/OpenConnectorFramework/ManageConnectors/index.

Note: On Alation Cloud Service instances, Alation Connector Manager is available by default.

Connection via Alation Agent

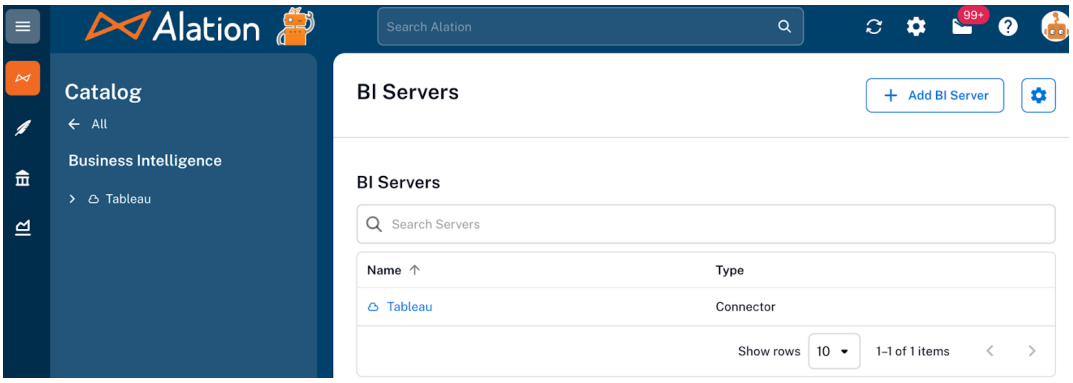
To install a connector on the Agent:

1. Ensure that /cloud/AlationAgent/index is enabled on your Alation instance. If necessary, create a Support ticket with Alation for an Alation representative to enable it.
2. Install the Agent using the instructions in /cloud/AlationAgent/InstallingTheAlationAgent.
3. Install the connector on the **Connectors Dashboard** page using the steps in /sources/OpenConnectorFramework/ManageConnectors/index.

Create a New BI Server Source

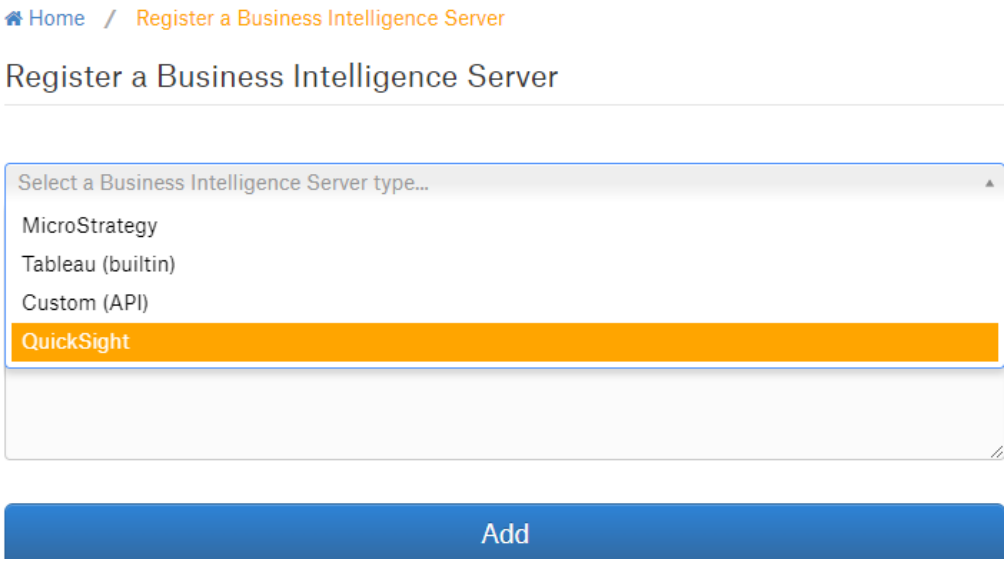
To create a BI source:

1. Log in to the Alation instance and from the Catalog menu, select **Business Intelligence** > **Add BI Server**. The **Register a Business Intelligence Server** screen appears.



2. On this screen, from the **Select a Business Intelligence Server type** list, select **QuickSight**.

Note: The connector name appears in this list only after it is installed.



3. Provide the **Title** and a **Description** (optional) for your BI source.

4. Click **Add**. You will be navigated to your BI Server source Settings page.

2.1.4 Configure Connection to the QuickSight Source

Alation Cloud Service | Customer Managed

After you have added an AWS QuickSight BI source, configure the connection to AWS QuickSight:

1. *Provide Access*
2. *Connect to the BI Source*

Provide Access

You can configure the visibility of a BI source and its child objects such as Folders and Reports on the **Access** tab of the settings page.

Configure BI Source Visibility

Applies from release 2023.3.5

On the **Access** tab, follow these steps to set the BI source visibility:

1. Select one of the following options for setting privacy level:
   - **Public BI Server**—The BI source will be visible to all users of the catalog.
   - **Private BI Server**—The BI Source will be visible to users who have been granted the BI Server Admin or Viewer permissions. It will be hidden for all other users.
2. Add one or more BI Server Admins or Viewers in the **User Access** section if required.

For more information on access to BI sources, see /sources/OpenConnectorFramework/ConfigureAccessToOCFBISource

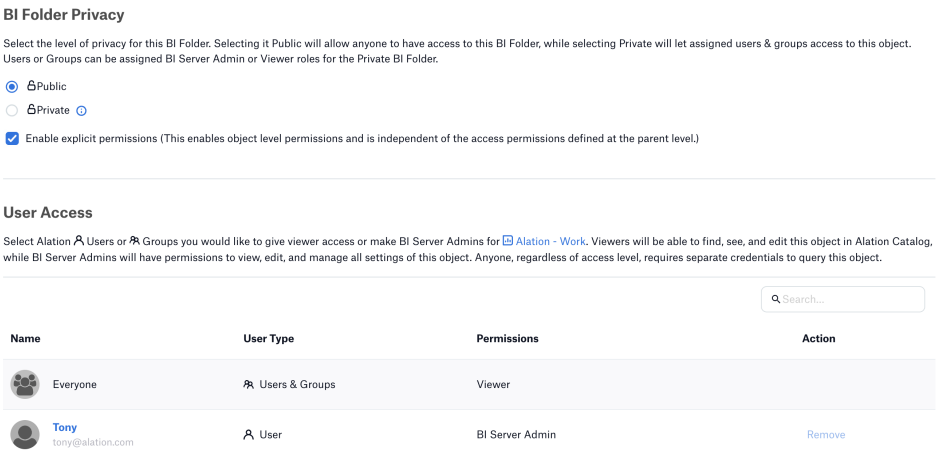
Configure BI Folder and Report Visibility

Applies from release 2024.1.4

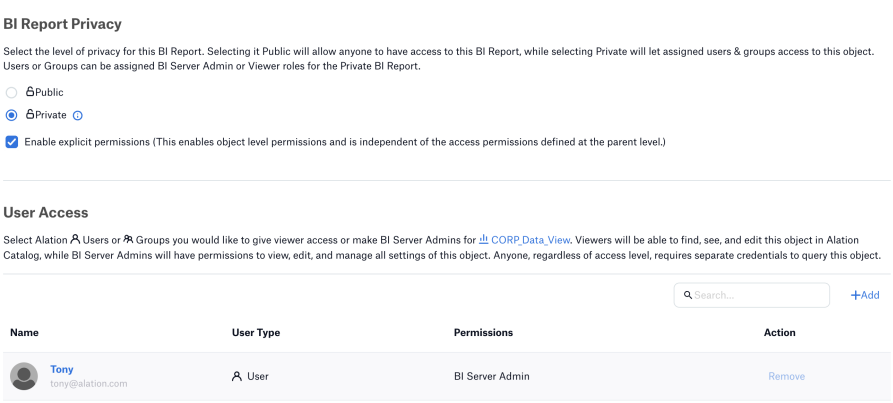
On the **Settings** under a BI Folder or Report, follow these steps to set visibility:

1. Check the option **Enable explicit permission** to change access permission defined at the parent level object.

   This enables and allows permissions at the object level. By default, the access permissions are inherited from the parent level and are not editable.
2. Select one of the following options to set a privacy level:
   - **Public**—The BI folder or report will be visible to all users of the catalog.



- **Private**—The BI folder or report will be visible to users that have been granted the BI Server Admin or Viewer permissions. It will be hidden for all other users.



3. Add one or more BI Server Admins or Viewers in the **User Access** section if required.

For more information on how to enable the feature and configure access to a folder or report, see /sources/OpenConnectorFramework/ConfigureAccessToOCFBIFoldersAndReports.

Connect to the BI Source

To connect to the BI source, you must perform these steps:

1. *Configure Authentication*
2. *Test the Connection*
3. *Configure Advanced Settings*

Configure Authentication

To configure authentication, perform these steps:

1. On the Settings page of your QuickSight BI source, go to the **General Settings** tab.
2. Go to the **Connector Settings** > **Server Connection** section and enter the following details:

Parameter	Description
AWSAccessKey	Specify the AWS access key.
AWSSecretKey	Specify the AWS secret key.
AWSAccountId	Specify the AWS account ID.
AWSRegion	Specify the AWS region.

3. Click **Save**.

Test the Connection

After specifying the connection details in *Configure Authentication* , test the connection:

1. Under **General Settings** > **Test Connection**, click **Test** to validate the network connectivity. Alation uses the authentication information you provided to confirm that the connection can be established.
2. A dialog box appears informing you about the status of the connection test.

Configure Advanced Settings

Note: This step is optional.

Apart from the mandatory configurations that you perform to connect to the BI Server source on the **General Settings** tab, you can configure the following additional settings in the **Application Settings** section.

Parameter	Description
Disable Automatic Lineage Generation	Select the **Disable Automatic Lineage Generation** checkbox to skip the creation of automatic lineage after extraction. When automatic lineage generation is disabled, the during extraction Alation does not calculate lineage data for this BI source.
Disable Permission Enforcement	Leave this checkbox selected. Permission enforcement is not supported between QuickSight and Alation.
Disable Certification	Leave this checkbox selected. Certification of BI objects in QuickSight from Alation is not supported.
Server URI	Not applicable

2.1.5 Configure Metadata Extraction

Alation Cloud Service | Customer Managed

To configure metadata extraction (MDE), perform the following steps:

1. Go to the **General Settings** tab of the Settings page of your QuickSight BI Server source.
2. Under **Extraction Settings**, turn on **Selective Extraction** if required. Selective extraction settings are used to apply a filter to include or exclude a list of projects.
    a. Click **Get List of Projects** to first fetch the list of projects.
    b. The status of the Get Projects action is logged in the **Extraction Job Status** table at the bottom of the Settings page.
    c. Once the folder synchronization is successful, a drop-down list of projects will become enabled. Select the projects you want to extract.
    d. Check if you are using the desired filter option. Available filter options are described below:

Filter Option	Description
Extract all Projects except	Extract metadata from all projects except from the Folders selected.
Extract only these Projects	Extract metadata from only the selected Projects.

    e. Click **Run Extraction Now** to extract metadata. The status of the extraction action is also logged in the **Extraction Job Status** table at the bottom of the page.
3. If you wish to automatically update the metadata in the catalog, under **Automated and Manual Extraction**, turn on **Enable Automated Extraction** and select the day and time when metadata must be extracted. The metadata extraction will be automatically scheduled to run at the selected day and time.

2.1.6 Configure Lineage

Alation Cloud Service

By default, the lineage data for QuickSight objects is calculated at the table-to-BI-report level, enabling users to trace lineage from a specific table in an RDBMS data source to a specific view in QuickSight.

From QuickSight enhanced connector version **1.0.0** and Alation version **2023.1**, you can additionally enable lineage at the column level. Users will be able to see lineage links from table columns in the underlying RDBMS data source to BI report fields in QuickSight views.

Both the database connected to QuickSight and the QuickSight instance must be cataloged in Alation for lineage between them to become available. For example, if your QuickSight instance is connected to a Redshift database as a source of data for visualizations, both Redshift and QuickSight must be cataloged in Alation as sources:

- Redshift—as a data source
- QuickSight—as a BI source

Enable Column-Level Lineage

Applies from version 2023.1

Enable the column-level lineage for the data source. Column-level lineage can be activated by a Server Admin in **Admin Settings** > **Feature Configuration**.

To enable column-level lineage:

1. Log in to Alation as a Server Admin.
2. Click the three gears icon on top right to open the Admin Settings page.
3. Under the **Server Admin** section, click **Feature Configuration**.
4. Locate the toggle for the specific data source, for example **Automatically extracts Column Level Lineage for Redshift data sources**. Click the toggle to activate the feature.
5. Scroll up to the top of the page and click **Save changes** to apply the configuration.

Configure Cross-System Lineage

Configuration of data source settings requires the role of *Server Admin*.

The settings of a data source allow you to configure a *link* to the BI source that uses the data from the database. This information is used to build lineage relations between metadata objects under the data source and the BI source.

Important: Before you configure lineage, make sure that at least one extraction was performed from the data source and the QuickSight BI source and that you have metadata from these sources in the catalog.

To configure cross-system lineage:

1. Under your QuickSight BI source, find the relevant BI datasource connection information. You can find the data source information on the **DataSources** tab of the QuickSight BI source, folder, or report page. The BI server source page lists all extracted datasources for all extracted BI objects. The page of a folder or a report only lists datasources used to create the reports.
2. Click on the name of the BI datasource to open its page and then open the **Connections** tab to view the database connection information in the **Database Connection** field under **Properties** on the right of the page.
3. Copy the **Database Connection** value.
4. In the Alation catalog, find the data source that is also the BI datasource for QuickSight and open its settings.
5. Go to the **Application Settings** section of the **General Settings** tab and under **Application Settings** specify the database connection information you have copied from the QuickSight BI source in the **BI connection info** field. This field links the two sources and enables table-to-BI-report and column-to-BI-column lineage generation between the data source and the BI source.
6. Click **Save**.
7. Before the next extraction from your QuickSight BI source, ensure that the **Disable Automatic Lineage Generation** checkbox is cleared.
8. *Perform extraction* on the QuickSight BI source.

2.1.7 Troubleshooting

Alation Cloud Service | Customer Managed

Test Connection

If the test connection fails, make sure the access key, secret key, account ID, and AWS region are entered correctly.

Metadata Extraction

- If metadata extraction fails and you get an `AccessDeniedException`, it is a policy issue.
- If no folders are fetched, make sure the **QuickSight shared folders** are not empty.

Logs

Alation Connector Manager Logs

To tail:

```
docker logs -f agent
```

To write to a file:

```
docker logs agent >& agent.logs 2>&1
```

Connector Logs

Note: The `alation_ypireti` commands should be run from the Alation shell as the `alation` user.

To get the connector ID:

```
alation_ypireti list --fields id name
```

To get full logs:

```
alation_ypireti kratos --subcommand logs <connector_id>
```

To write logs to a file:

```
alation_ypireti kratos --subcommand logs <conector_id> > connector.log 2>&1
```

To write logs from specific date to a file:

```
alation_ypireti kratos --subcommand logs --since 2020-08-15 <connector_id> >
connector.log 2>&1
```

2.2 Power BI On-Premise Enhanced OCF Connector

Alation Cloud Service | Customer Managed

The following sections describe how to install and configure the PowerBI Report Server OCF connector for on-premise/customer-managed Microsoft Power BI Report Server deployments:

2.2.1 Overview

Alation Cloud Service | Customer Managed

To get the enhanced connector for Power BI on-prem, contact the Forward Deployed Engineering team at Alation.

This connector should be used to catalog On-Premise Power BI Report Server as a Business Intelligence source in Alation. The connector catalogs Power BI objects such as Servers, Folders, PowerBI Reports (PBIX), Reports, Data Sources, and Data Sets. It enables end-users to search and find Power BI objects from the Alation user interface.

Important: This connector supports only Power BI On-Premise / self-managed instances (not cloud-based PowerBI Service)

Team

The following administrators are required to install this connector:

- Alation Server Admin/Linux Administrator:
  - Installs the connector
  - Creates a Power BI source
  - Provisions Alation API tokens
  - Configures connector settings
  - Configures Kerberos/NTLM/Basic Authentication
- Power BI Administrator:
  - Provides access to Power BI objects.

Scope

The table below shows the features supported by the connector.

Feature	Scope	Availability
Power BI Instance	Catalog Power BI instance in an On-Premise Environment	Yes
Folders	Catalog Folders in Power BI	Yes
Folder Description	Extract Description of a Folder	Yes
Filter Folders	Ability to include or exclude specific Folders	Yes
Reports	Catalog reports in Folders	Yes
Report Objects	Catalog report objects such as tables	Yes
Report object dimensions, measures, expressions	Catalog dimensions, measures, and measure expressions of report objects	Yes *
Report object data sources	Catalog data sources used by the report objects	Yes
Report object lineage	Catalog the lineage of a report object	Yes
Filter Reports	Ability to include or exclude specific Reports	No
Report Owner	Owners or Authors who created a report	Yes
Auto-generated report object titles	Ability to capture auto-generated report object titles by Power BI	Yes
PowerBI Reports (PBIX)	Catalog PowerBI Reports (PBIX) in a Folder	Yes
PowerBI Reports (PBIX) object Measures & Dimensions	Catalog dimensions and measure of a PBIX object	Yes
Applications	Catalog applications	No
Filter Applications	Ability to include or exclude specific applications	No
Dataflows	Catalog dataflows	No
Datasets	Catalog datasets	Yes
Image Preview	Ability to show a thumbnail image of reports and dashboards	No **
Popularity	Popularity of Dashboards & Reports	No
Security Replication	Replicate access control to reports and dashboards	No
Table level Lineage	Report Table lineage to the data source	Yes (not available for PBIX report types)
Column Level Lineage	PBIX and Report Column lineage to the data source	No **
SQL query from dataset used to build report	Extraction of the SQL query from datasource	Yes (not available for PBIX report types)
PowerBI object owner and last modified	Catalog the Owner of the PowerBI object and the last modified date	Yes
Authentication	NTLM, Basic, Kerberos	Yes
Link to PowerBI object from Alation	Ability to open the PowerBI object from Alation	Yes

* - Report dimensions, measures, and expressions can be cataloged only if access to the underlying PBIX files is available. DAX expressions are not available.

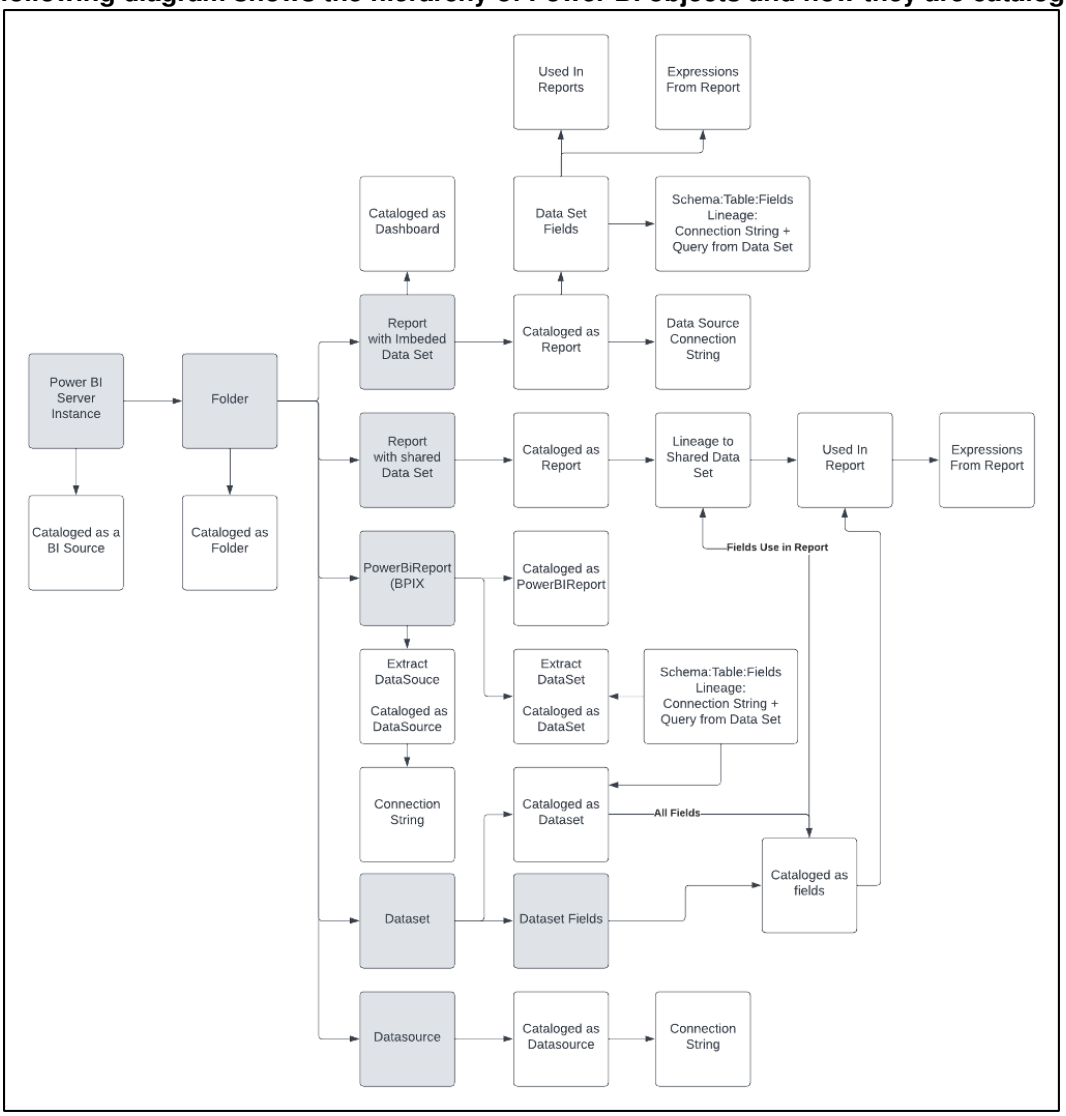
** - APIs to get this data source information from Microsoft are not available.

*** - Can catalog only dashboards and tiles. API to get fields of tiles is not available.

**** - Only fields that are present in reports are populated as dataset fields as there is no separate API from Microsoft.

Power BI Objects Hierarchy

The following diagram shows the hierarchy of Power BI objects and how they are cataloged in Alation:



Power BI APIs

The following table lists the Power BI APIs used by this connector to extract metadata from Power BI:

Type	Swagger Documentation	Description
Swagger	https://app.swaggerhub.com/apis/microsoft-rs/PBIRS/2.0#/	The Power BI Report Server REST API provides programmatic access to the report server catalog.

2.2.2 Prerequisites

Alation Cloud Service **Customer Managed**

Alation Agent

The Alation Agent is required for all ACS customers.

Firewall Configuration

Open outbound TCP port 443 on Power BI Server for Rest API communication.

Authentication Requirements

The PowerBI On-prem connector supports:

- Basic Authentication
- Kerberos Authentication
- NTLM Authentication

Note: If Entra ID is deployed for Power BI authentication you can consider using Entra ID's support for Kerberos or NTLM.

Create a Service Account

The connector will only extract Power BI workspaces that are accessible by the service account whose credentials are configured in the connector settings. Create a service account, or use an existing account, and keep a note of these credentials for the connector configuration step.

Permissions for the Service Account

The Power BI administrator will need to grant workspace permission to members. Access to at least one workspace must be granted.

2.2.3 Set Up the Power BI On-Prem OCF Connector

Alation Cloud Service | Customer Managed

After fulfilling the *Prerequisites*, install the connector in Alation and create a Power BI data source.

Install the Connector

Customer-Managed Instances

Installation of enhanced connectors on customer-managed instances requires Alation Connector Manager to be installed as a prerequisite. To install a connector:

1. If this has not been done on your instance, install and configure the Alation Connector Manager: /sources/OpenConnectorFramework/OCFInstallAlationConnectorManager.
2. Ensure that the connector Zip file you received from Alation is available on your local machine.
3. Install the connector on the **Connectors Dashboard** page using the steps in /sources/OpenConnectorFramework/ManageConnectors/index.

Alation Cloud Service Instances

On Alation Cloud Service (ACS) instances, you need to use the Alation Agent to install connectors and connect to sources.

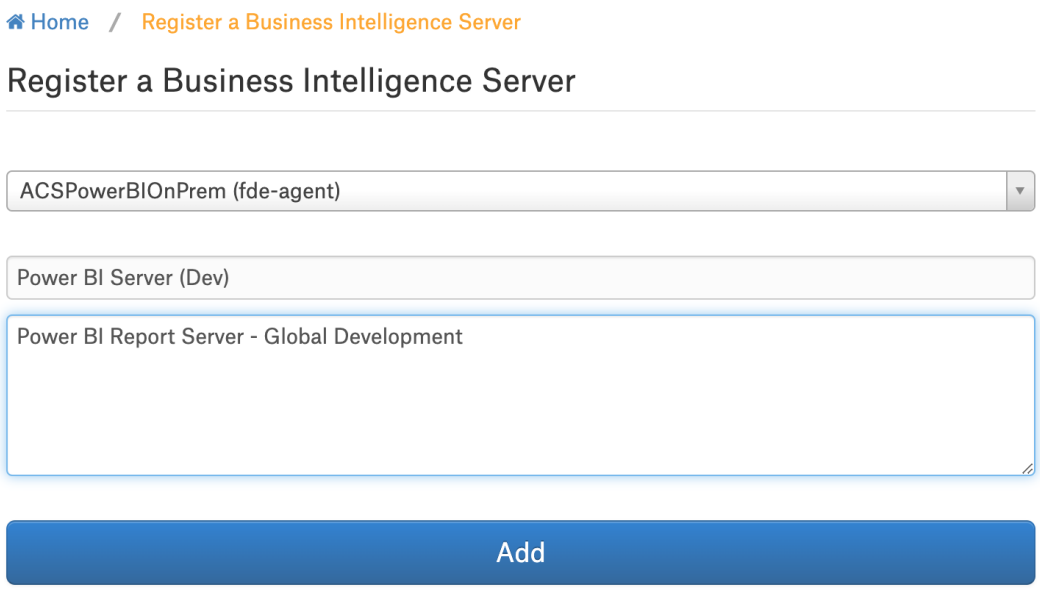
To install a connector on the Agent:

1. Ensure that /cloud/AlationAgent/index is enabled on your Alation instance. If necessary, create a Support ticket with Alation for an Alation representative to enable it.
2. Install the Agent using the instructions in /cloud/AlationAgent/InstallingTheAlationAgent.
3. Install the connector on the **Connectors Dashboard** page using the steps in /sources/OpenConnectorFramework/ManageConnectors/index.

Create a New BI Server Source

To create a BI source:

1. Log in to the Alation instance and add a new BI Server source: Apps > Sources > Add > BI Server. The Register a Business Intelligence Server screen will open.
2. On this screen, from the Select a Business Intelligence Server type list, select the Power BI connector name (PowerBIOnPrem) and enter a Title and a Description.



3. Click Add. You will be navigated to your BI Server source Settings page.

2.2.4 Configure Connection to the Power BI Source

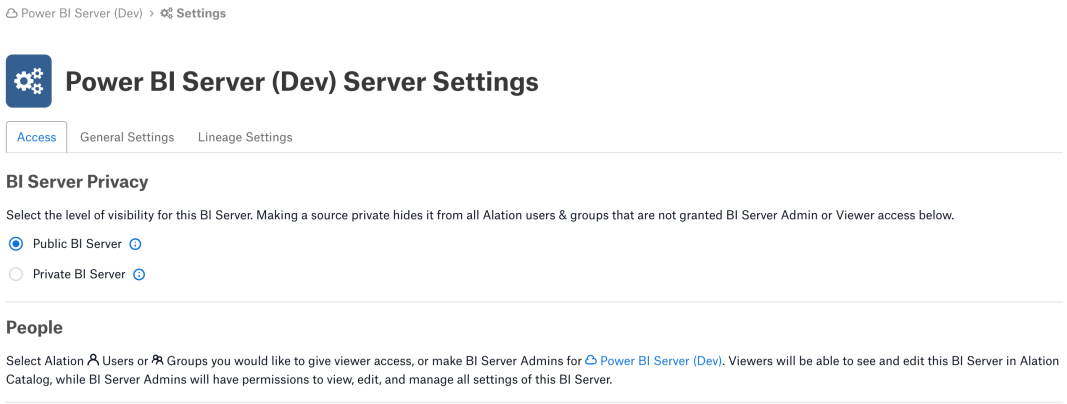
Alation Cloud Service **Customer Managed**

Configure the On-Prem Power BI Source

1. Configure the connection to the Power BI server:

   On the Access tab, set the BI source visibility as follows:

   - Public BI Server—The BI source will be visible to all users of the catalog.
   - Private BI Server—The BI Source will be visible to users that have been assigned the BI Server Admin or Viewer role. It will be hidden for all other users.



   You can add more BI Admins or Viewers in the **User Access** section if required. For more information, see *Configure Access to OCF BI Sources*

2. Perform the configuration on the General Settings tab:

Specify **Application Settings**:

Parameter	Description
Enable automatic lineage	Leave this checkbox selected (default).
Disable Permission Enforcement	Leave this checkbox selected (default). Permission enforcement is not supported between Power BI and Alation.
Disable Certification	Leave this checkbox selected (default). Certification of BI objects in Power BI from Alation is not supported.
Server URI	Enter the server URI used to access Power BI

Click Save to save the information you have entered.

Specify **Connector Settings**:

Parameter	Description
Power BI Web URL	Enter the URL to access Power BI. For example: https://app.powerbi.com/
Power BI API URL	Enter the API URL to access Power BI APIs. Example: https://api.powerbi.com/v1.0/myorg/
Power BI Domain	Enter the Power BI Domain
Power BI User	Enter the Power BI User
Power BI Password	Enter the Power BI Password
Power BI Catalog Hidden Pages	Choose if hidden pages should be cataloged
Authentication Type	Choose to enable Kerberos, NTLM, or basic auth
Upload Krb5 config	Upload your Krb5 file for Kerberos configuration
Enable SSL	If enabled the connector will use SSL when establishing connections
Truststore password	The password is used to protect the temporal truststore that stores the SSL certificate. The truststore is deleted when the JDBC connection is closed.
Alation Base URL	Enter the based URL to your alation catalog
Alation API Token	Enter the Alation API Token

Click Save.

3. Under Test Connection, click Test to validate network connectivity.

2.2.5 Configure Metadata Extraction

Alation Cloud Service **Customer Managed**

To configure metadata extraction (MDE), perform the following steps:

1. Under Extraction Settings, configure the metadata extraction. Turn on Selective Extraction, if required. Selective extraction settings are used to apply a filter to include or exclude a list of folders.
2. Click **Get List of Folders** to first fetch the list of folders from Power BI.
3. The status of the Get Projects action is logged in the Job History table at the bottom of the Settings page.
4. If the folder synchronization is successful, a drop-down list of folders will become enabled. Select one or more folders to extract.

5. Check the selected filter option. Available filter options are described below:

Filter Option	Description
Extract all Folders except	Extract metadata from all Folders except from the Folders selected.
Extract only these Folders	Extract metadata from only the selected Folders.

6. Click **Run Extraction Now** to extract metadata. The status of the Extraction action is also logged in the Job History table at the bottom of the page.
7. If you wish to automatically update the metadata in the Catalog, under Automated and Manual Extraction, turn on Enable Automated Extraction and select the day and time when metadata must be extracted. The metadata extraction will be automatically scheduled to run at the selected day and time.

2.2.6 Troubleshooting

Alation Cloud Service | Customer Managed

Untitled Reports

Issue: Reports are cataloged in Alation as **Untitled**.

Resolution: Edit the specific report visual in Power BI Desktop, make sure the Title bar is enabled, and provide a title for the visual. Publish the report.

Lineage Not As Expected

Issue: Lineage is missing or displayed incorrectly.

Resolution:

1. Ensure the Power BI report was created with data from an official, managed data source. If data was pasted into the report, or imported from a csv file by the user then lineage cannot be generated.
2. Avoid renaming objects and data sources.

Connector Limitations

- **The On-Premise Power BI Connector extracts the measures and dimensions of a Power BI Report by exportin**
  - If the administrator has turned off the ability to download data, the connector cannot download reports.
  - PBIX files with data sources also cataloged in Alation should work if the PBIX connection string is correct and matches the cataloged data source FQDN. However PBIX files are not always created with PowerBI registered data sources or data sets. Due to the nature of how PBIX files are created with PowerBI desktop then imported to a PowerBI Report Server, some PBIX files may not have well formatted connection strings, or the PBIX may have locally imported data (example: csv files) which have no explicit lineage paths to sources, or the PBIX file may have Copy/Pasted data. The connection string, tables, and fields will be extracted and present in the Alation catalog, but unless the data source is also cataloged in Alation using the same FQDN as in the PBIX file, then no automatic lineage can be generated.

2.3 Qlik Sense Cloud Enhanced Connector

Alation Cloud Service | Customer Managed

The following sections describe how to install and configure the Qlik Sense Cloud Enhanced OCF Connector:

2.3.1 Overview

Alation Cloud Service | Customer Managed

To get the enhanced connector for Qlik Sense Cloud, contact the Forward Deployed Engineering team at Alation.

This connector is used to catalog Qlik Sense Cloud as a Business Intelligence source in Alation. The connector extracts Qlik objects such as Space, Application, Sheet, Data Source, Visualization, and Visualizations' measures and dimensions. Users will be able to search and find the Qlik objects and understand the business transformation on their data from the Alation user interface.

Team

The following administrators are required to install this connector:

- BI Admin:
  - Provides the Qlik URI
  - Provides the Qlik account with admin privilege
- Alation Server Admin:
  - Installs the connector
  - Creates a BI source
  - Configures the BI source

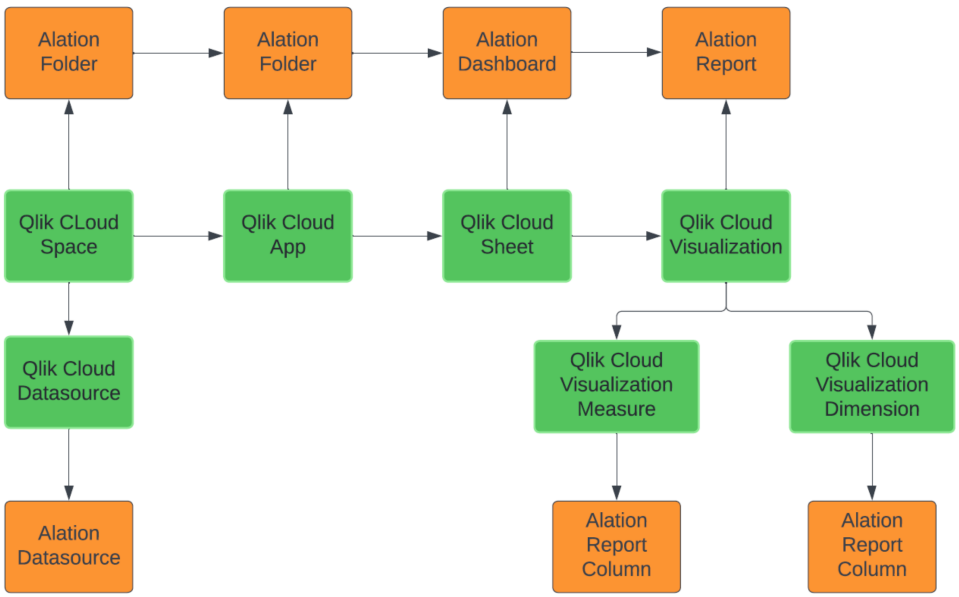
Scope

The table below describes the dependencies and operations supported by the connector.

Feature	Scope	Availability
BI Server version	1.0.3 onwards	Yes
Alation version	2024.1.4 onwards	Yes
Metadata extraction	Extract the metadata in *Object Mapping*	Yes
Report Lineage	Intra-system lineage - Example: Table to Sheet to Visualization	Yes
Cross System Lineage	End-to-end lineage at the system level from the RDBMS data source to the Qlik data source. Example: a Snowflake Table to Qlik Table	Yes
File-based Lineage	Lineage of data stored in files - Example QVDs, QVXs, Excel	No
Permission Mirroring	Replicate Qlik Space level permissions into Alation	Yes
Link to Source System	Navigation(navigation link to the object in Qlik	Yes
Selective Extraction	Ability to apply filters on Spaces/Projects	Yes
Full Extraction	Ability to run full extraction on the Qlik instance	Yes

Object Mapping

The diagram and table below describe which metadata objects are extracted by this connector and how they are m



Qlik Type	Alation Type	Qlik Endpoint	Description
Space	BI Folder	/api/v1/spaces	Space is a central concept in the Qlik platform and is used to control access to various other resources in the system. Connector retrieves all Spaces that the user has access to.
App	BI Folder	/api/v1/apps	Apps are the resource used when interacting with Qlik apps. The Connector retrieves all Apps that the user has access to
Sheet	Dashboard	WebSocket API	Connector retrieves the details about sheets.
Visualization	Report	WebSocket API	Connector retrieves the handle for Sheets and extracts the layout for the sheet.
Data Source	BI Datasource	WebSocket API	Connector will extract all the Database Connections used by an application. Also extracts details of Database connections like host, port, etc. and Tables/Fields in that Database Connection. Gets all the Tables/Fields for given application.

2.3.2 Prerequisites

Alation Cloud Service | Customer Managed

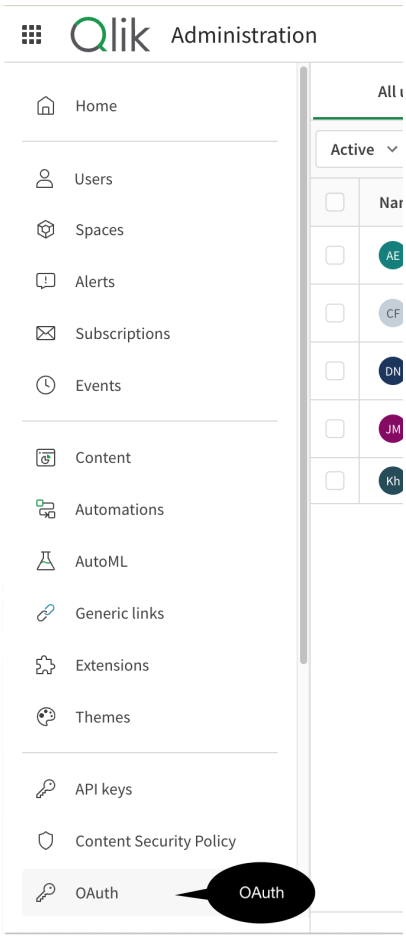
Alation Agent

To use this connector the Alation Agent is required for all ACS customers.

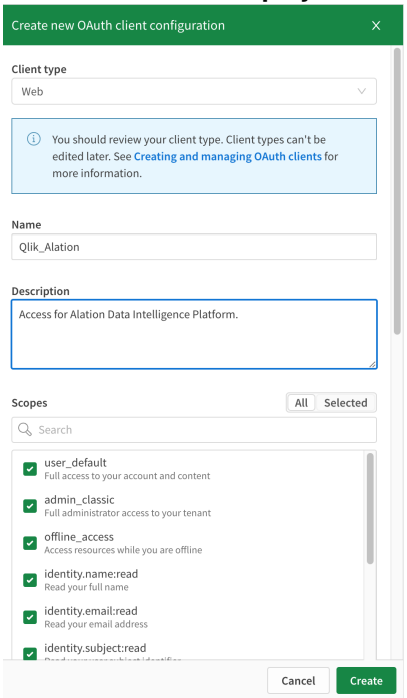
Credentials

The connector supports OAuth authentication using Client ID and Client Secret which are generated in the Qlik UI by an administrator. Follow these steps to prepare Qlik to be accessed by the Alation connector:

1) **Navigate to the Qlik Management Console or click the green menu button (top left) and choose Administratio**



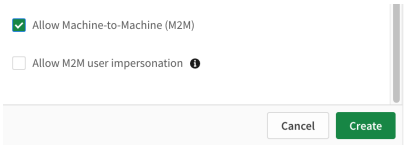
2) **Click “Create new” to display the OAuth client configuration panel. Choose a Web client type and set name, d**



Qlik Scopes

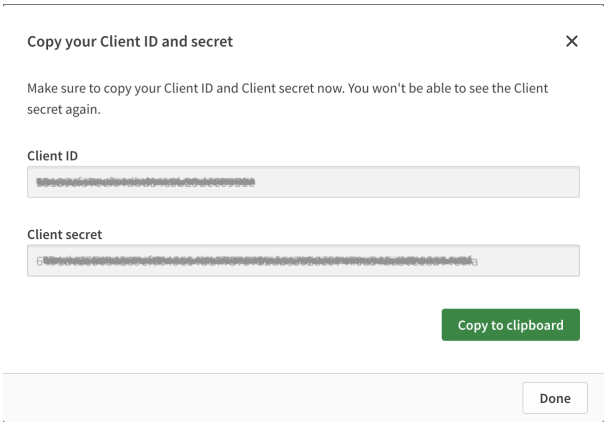
The minimum permissions needed by the connector to perform the desired metadata extraction are as follows:

#	Scope Name	Description
1	user_default	Full access to your account and content.
2	Spaces.shared	Read and manage your shared spaces
3	spaces.shared:read	Read access to shared spaces.
4	spaces.managed	Read and manage your managed spaces
5	spaces.managed:read	Read access to managed spaces.
6	identity.email:read	Read access to the user's email address.
7	identity.name:read	Read access to the user's full name.
8	Admin.apps	Read and manage all apps in the tenant
9	Admin.apps:read	Read all apps in the tenant
10	Apps	Read and manage your apps
11	apps:read	Read your apps
12	Admin.spaces	admin.spacesRead and manage all spaces in the tenant
13	admin.spaces:read	Read all spaces in the tenant
14	spaces.data	Read and manage your data spaces
15	spaces.data:read	Read your data spaces

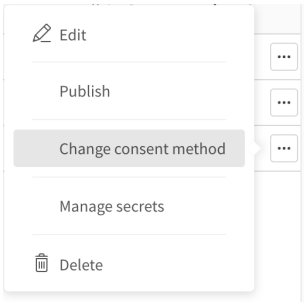


3) **Ensure "Allow Machine-to-Machine (M2M)" is checked**

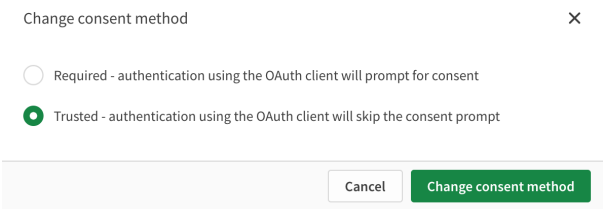
4) **Click "Create" and make a note of the Client ID and Client Secret displayed in the UI:**



5) **Click the "..." button on the newly created configuration and choose "Change consent method":**



6) **Set the consent method to Trusted:**



2.3.3 Set Up the Qlik Sense Cloud BI OCF Connector

Alation Cloud Service | Customer Managed

After fulfilling the *Prerequisites*, install the connector in Alation and create a Qlik Sense Cloud BI data source.

Install the Connector

Customer-Managed Instances

Installation of enhanced connectors on customer-managed instances requires Alation Connector Manager to be installed as a prerequisite. To install a connector:

1. If this has not been done on your instance, install and configure the Alation Connector Manager: /sources/OpenConnectorFramework/OCFInstallAlationConnectorManager.
2. Ensure that the connector Zip file you received from Alation is available on your local machine.
3. Install the connector Zip file on the **Connectors Dashboard** page using the steps in /sources/OpenConnectorFramework/ManageConnectors/index.

Alation Cloud Service Instances

On Alation Cloud Service (ACS) instances, the Alation Agent is mandatory for installing enhanced connectors.

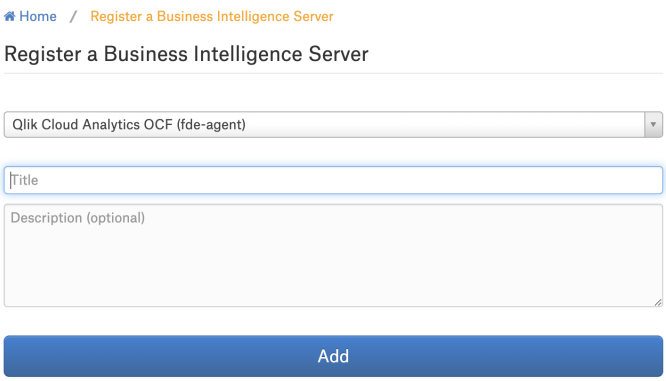
To install a connector on the Agent:

1. Ensure that /cloud/AlationAgent/index is enabled on your Alation instance. If necessary, create a Support ticket with Alation for an Alation representative to enable it.
2. Install the Agent using the instructions in /cloud/AlationAgent/InstallingTheAlationAgent.
3. Install the connector on the **Connectors Dashboard** page using the steps in /sources/OpenConnectorFramework/ManageConnectors/index.

Create a New BI Server Source

To create a BI source:

1. Log in to the Alation instance and add a new BI Server source: Apps > Sources > Add > BI Server. The Register a Business Intelligence Server screen will open.
2. From the Select a Business Intelligence Server type list, select **Qlik Cloud Analytics OCF**, and enter a **Title** and optional **Description**.



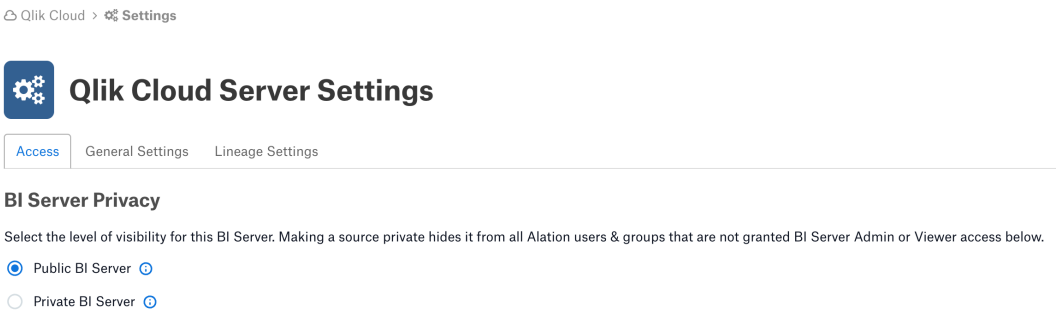
3. Click **Add**. You will be navigated to your BI Server source Settings page.

2.3.4 Configure Connection to the Qlik Sense Cloud BI Source

Alation Cloud Service **Customer Managed**

Configure the Qlik Sense Cloud BI Source

Navigate to the settings page for your Qlik Cloud BI Server configured in the previous step, and click the Access ta



1. Set the **BI Server Privacy** to Public or Private depending on your requirements.
2. In the **General Settings** tab, configure the connection to the Qlik Cloud BI server using the credentials you generated in the *Prerequisites* steps:

Parameter	Description	Default value	Example value
Server URI	The URI of the BI server. This is used to redirect users when they wish to access a given object on the BI server via Alation.		*https://ireueql9bi2m9ji.us.qlikcloud.com*
Company Name	Company name provided along with the license key from the license file		Acme Corp
License Key	License key of the connector. Contact your Alation account team for this.		
URI	The URI of the Qlik Server		*https://ireueql9bi2m9ji.us.qlikcloud.com*
ClientID	The client ID of the Qlik service account		1fe6bfe21879ab004b1e08783a9e20a2
ClientSecret	The secret of the Qlik service account		f9a3b67cdf4e8a9b12e45d67b13a9f47cd8b23

3. Finally, click the **Test** button to test connectivity is working.

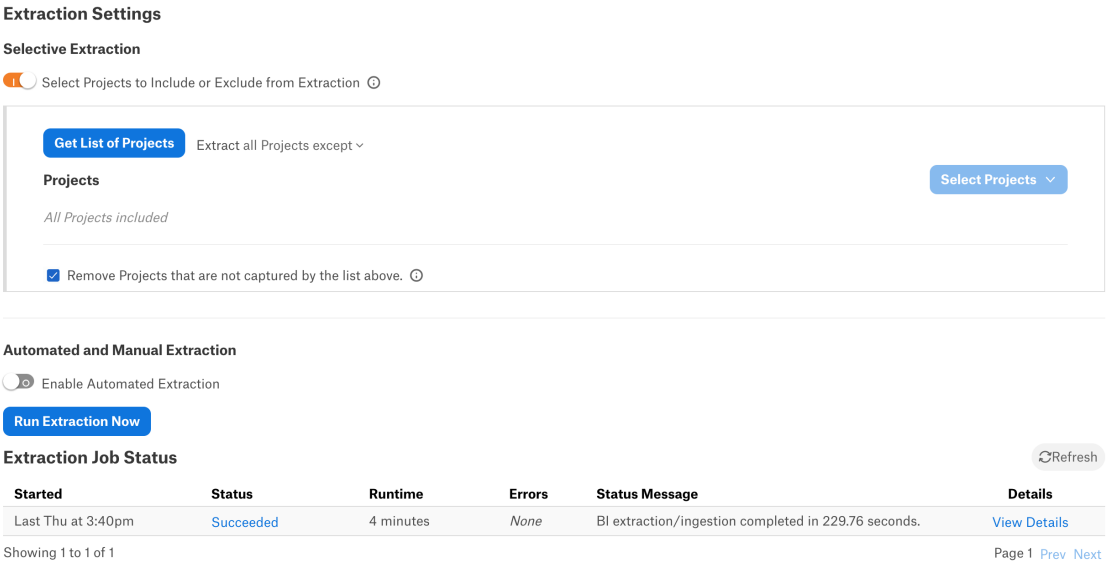
2.3.5 Configure Metadata Extraction

Alation Cloud Service | Customer Managed

2.3.6 Extraction

To configure metadata extraction (MDE) perform the following steps:

1. **Under Extraction Settings, turn on Selective Extraction, if required. Selective extraction settings are used to a**



2. Click **Get List of Projects** to first fetch the list of projects from Qlik (subject to your permissions).
3. The status of the Get Projects action is logged in the **JExtraction Job Status** table at the bottom of the Settings page.

4. Once the folder synchronization is successful, the **Select Projects** button is enabled - click it to see a drop-down list of projects. Select one or more (or All) projects to apply the filter.
5. Check you are using the desired filter option. Available filter options are described below:

Filter Option	Description
Extract all Projects except	Extract metadata from all projects except from the Folders selected.
Extract only these Projects	Extract metadata from only the selected Projects.

6. Choose to Keep/Remove Projects not captured by your project list. When **Remove Projects that are not captured by the list above** is checked, all the existing Projects that are not re-extracted will be hidden from the catalog pages. Lineage and Curation data will be kept and reapplied to them after being extracted again. (Note: To permanently remove those projects' data, the **enable_soft_delete** configuration flag can be adjusted - please contact Alation Support to discuss this).
7. Click **Run Extraction Now** to extract metadata. The status of the extraction action is also logged in the **Extraction Job Status** table at the bottom of the page.
8. If you wish to automatically update the metadata in the Catalog, under **Automated and Manual Extraction**, turn on **Enable Automated Extraction** and select the day and time when metadata must be extracted. The metadata extraction will be automatically scheduled to run at the selected day and time.

2.3.7 Configure Lineage

Alation Cloud Service **Customer Managed**

The OCF connector for Qlik Cloud automatically calculates lineage information during metadata extraction. Table-level and Column-level lineage is supported by the connector. You also have the ability to configure cross-system lineage to generate lineage between your Qlik Cloud BI source and RDBMS data sources. The following RDBMS sources are supported by the connector for cross-system lineage:

- Snowflake
- Microsoft SQL Server

To enable cross-system lineage the "BI connection info" needs to be configured on the corresponding source database's Additional Data Source Connections page.

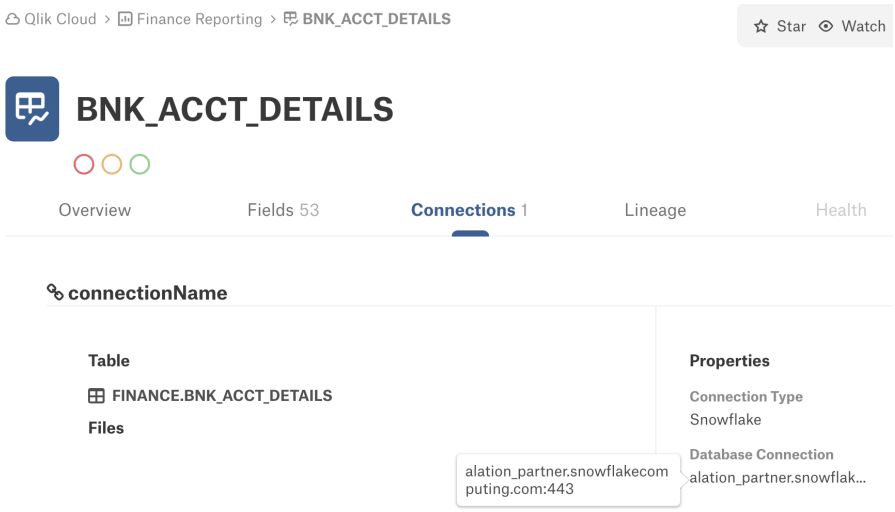
Parameter	Description	Default value	Example value
Additional data source connections	The BI source connection that is connecting to an RDBMS source	No default value	company.snowflakecomputing.com:443

Below are the steps to configure the Additional data source connections:

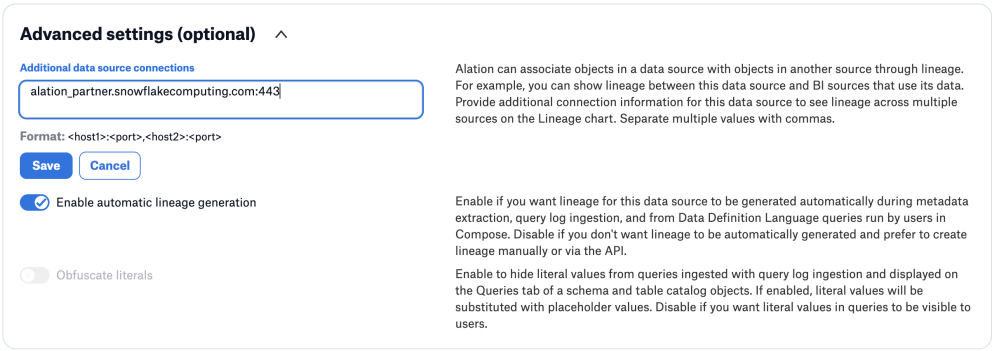
Older Alation UI

1. **After metadata extraction has taken place, navigate to your previously-configured Qlik Cloud BI source in Ala**

    - Above the list of folders displayed, select the **DataSources** tab
    - Chooose a data source from the list
    - For the chosen data source click the **Connections** tab
    - Copy the displayed **Database Connection** string (example: *company.snowflakecomputing.com:443*) including any port number.



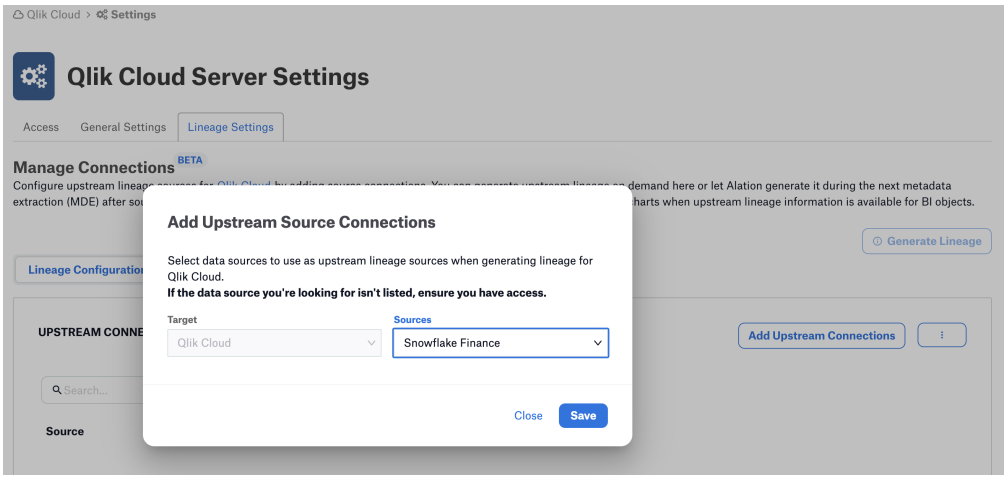
2. Identify the relevant data source - Snowflake in this example - and open this data source's **General Settings** Tab and paste the value from Step 1 into the below field. The UI may vary depending on the Alation version.



3. Ensure **Enable Automatic Lineage Generation** is checked.
4. Rerun the Qlik metadata extraction job.

New Alation UI

1. Navigate to your Qlik Cloud connector settings and click the **Lineage Settings** tab.
2. Under **Manage Connections** click the **Add Upstream Connections** button.
3. Choose the upstream data source(s) from the list displayed on the right (example: a Snowflake database) and Click **Save**.



4. Click **Generate Lineage**.

Alation will then generate lineage data revealing the pathways between the data source tables and the Qlik reports. Lineage will continue to be collected during subsequent metadata extraction (MDE) jobs.

2.3.8 Troubleshooting

Alation Cloud Service | **Customer Managed**

Problem	Guidance
Test Connection failure with Error extracting token.	Please ensure Server Connection values are correct.
Test Connection Failure with Invalid License Key.	Please Ensure License Settings values are valid.
Link to Source System is not navigating correctly. The link shows as “None”	Please enter the correct Server URI value. Example **https://<Server_Name>.us.qlikcloud.com/**
Permission Mirroring is not working	Please deselect **Disable Permission Enforcement** in settings
Heap Memory Error during MDE Extraction	Please check the current Memory allocation of your connector from the logs. 1 GB is the Minimum Memory requirement. Please contact Alation Support if you need to increase the memory of your connector

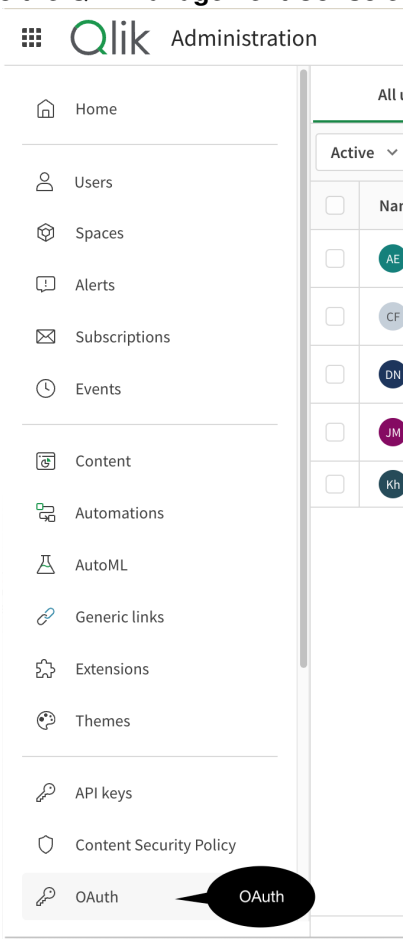
API Authentication

This section provides additional information on how the connector operates. Steps are also included in case the need arises for power users, administrators or developers to perform Qlik API tests for troubleshooting purposes. This can be useful when trying to resolve application permissions and/or security problems. For this kind of API testing outside of Alation, an app such as Postman can be used in conjunction with a Qlik oAuth token or API key for your Qlik instance that you will need to generate. Instructions for obtaining tokens and keys follow.

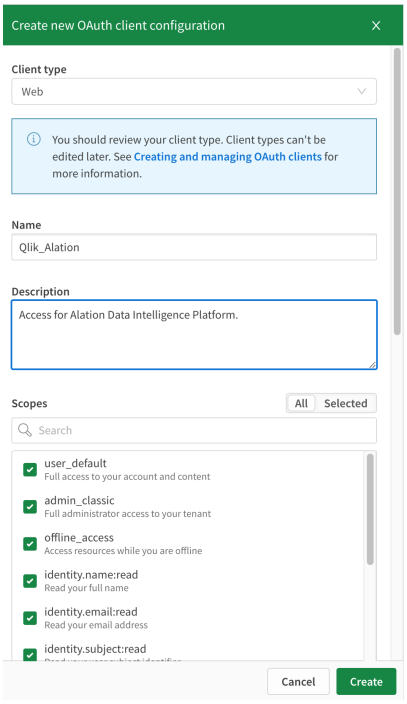
Generate oAuth Token Manually

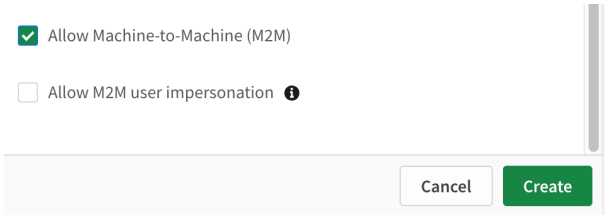
The Qlik Sense Cloud connector supports OAuth authentication using the client_id and client_secret.

1. **Go to the Qlik Management Console and click OAuth, or click the green menu button (top-left) > Administratio**

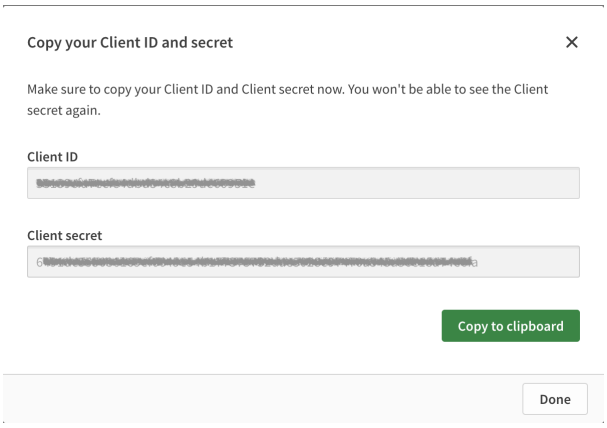


2. **Create an oAuth client of type Web and set name, description and scopes (see the following table for more de**

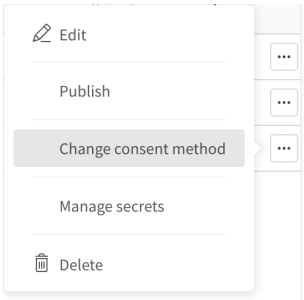


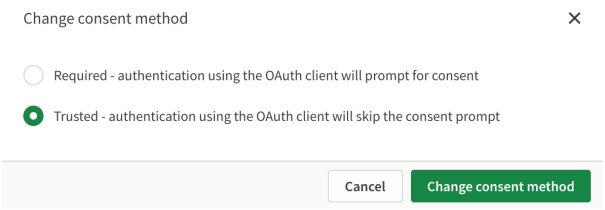


3. **Ensure "Allow M2M" is checked and click Create:**



4. **Make a note of the credentials:**
5. **Click the ... button on the newly created configuration and click *Change consent method* :**





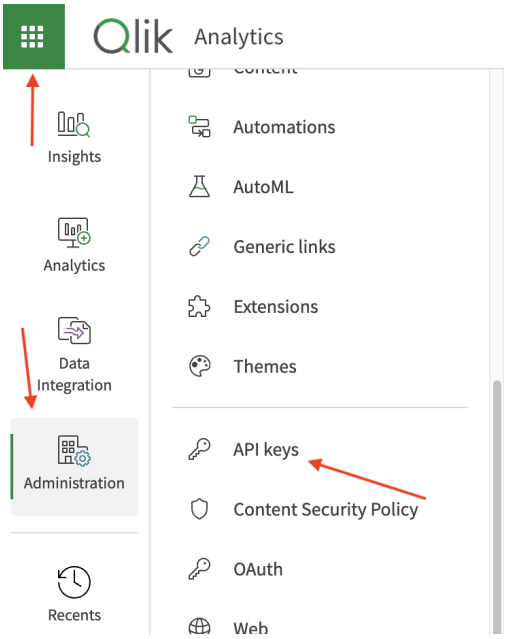
6. **Set the consent method to Trusted:**

The minimum permissions needed for generating the oAuth token and performing the desired metadata extraction are as follows:

#	Scope Name	Description
1	user_default	Full access to your account and content.
2	Spaces.shared	Read and manage your shared spaces
3	spaces.shared:read	Read access to shared spaces.
4	spaces.managed	Read and manage your managed spaces
5	spaces.managed:read	Read access to managed spaces.
6	identity.email:read	Read access to the user's email address.
7	identity.name:read	Read access to the user's full name.
8	Admin.apps	Read and manage all apps in the tenant
9	Admin.apps:read	Read all apps in the tenant
10	Apps	Read and manage your apps
11	apps:read	Read your apps
12	Admin.spaces	admin.spacesRead and manage all spaces in the tenant
13	admin.spaces:read	Read all spaces in the tenant
14	spaces.data	Read and manage your data spaces
15	spaces.data:read	Read your data spaces

Generate API Key Manually

In order to access Qlik APIs from an app such as Postman, we'll need to use an API Token. To generate the token: #. Go to the Qlik Cloud Management Console, or click the green menu button (top-left) > Administration > API Keys



1. Click **Generate Key**. Enter the required details (description, expiry) and click **Generate**
2. Make a note of the API Token.

Generate OAuth Token Programmatically

Whenever the connector needs to access REST/Websocket APIs for Qlik, it needs to pass Bearer Token/API Key each time.

Prerequisites:

To generate OAuth Token, you need to configure OAuth2 M2M Client. Refer to this link for configuration guidance: https://qlik.dev/authenticate/oauth/create-oauth-client/

Additional Details:

Refer to the following link to understand the process. Note the section “Making REST Calls” to understand how to invoke REST calls. https://qlik.dev/authenticate/oauth/getting-started-oauth-m2m/

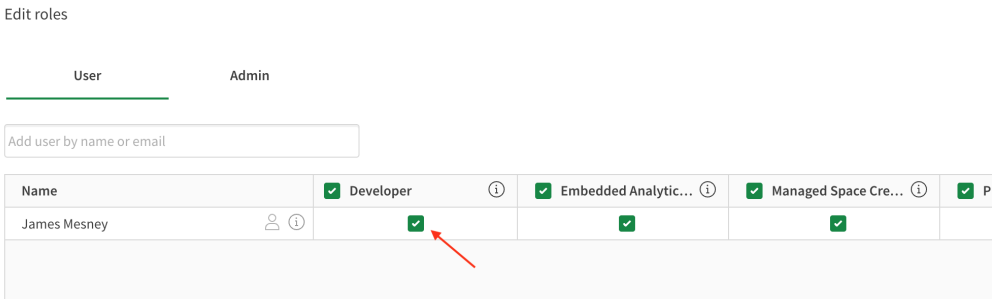
Generate API Keys Programmatically

Whenever the connector need to access REST/Websocket APIs for Qlik, it needs to pass Bearer Token/API Key each time.

Prerequisites:

To generate API Key, make sure that current user, who is hitting the API Key endpoint, has the “Developer” role assigned to them.

Navigation flow : Users menu -> All Users -> Select the user -> Click ... button -> Edit Roles



Also make sure that “Auto Assign” column for “Developer” role is set to “Anyone at . . . ” option.

Navigation flow : Users menu -> Permissions

Refer to this link to understand the process: https://qlik.dev/authenticate/api-key/generate-your-first-api-key/

Accessing Qlik REST API

1. Open Postman or any REST API tool.
2. Create a new HTTP Request and mention the HTTP method.
3. In Authorization tab, specify the Bearer Token and copy the Token generated from Qlik API Console.
4. Specify the URL for Qlik REST API.

Accessing QiX JSON RPC API

Qlik QiX API is built on top of JSON RPC. This needs to be invoked using WebSocket protocol. HTTP works on a Request and Response model. The REST API flow is as follows

1. Client will send a request
2. New Connection is opened between Client and Server
3. Server will process the request
4. Client will get a response from Server
5. Connection is closed between Client and Server

The WebSocket API flow is as follows:

1. Client will send a NEW request
2. New Connection is opened between Client and Server
3. Server will process the request
4. Client will get a response from Server
5. Connection REMAIN OPEN between Client and Server
6. Client will send ADDITIONAL requests
7. Server will process ADDITIONAL requests
8. Clients will get ADDITIONAL responses from Client
9. This connection remains OPEN until one of the party disconnects

Accessing Qix JSON RPC API

1. Open Postman OR any Websocket API tool.
2. Create a new WebSocket (ie WSS) Request
3. In Authorization tab, specify the Bearer Token and copy the Token generated from Qlik Management Console.
4. Specify the URL for Qix Websocket API and Click Connect. The URI format should be **https://<your-Qlik-instance>.us.qlikcloud.com/hub**

More Information: Qlik WebSocket Help -> Qlik Sense Engine (qix) JSON-RPC | Qlik Developer Portal

2.4 ThoughtSpot Enhanced Connector

Alation Cloud Service **Customer Managed**

The following sections describe how to install and configure the ThoughtSpot Enhanced OCF Connector:

- *Overview*
- *Prerequisites*
- *Set Up the ThoughtSpot Connector*
- *Configure Connection to the ThoughtSpot Source*
- *Configure Metadata Extraction*
- *Configure Lineage*
- *Troubleshooting*

2.4.1 Overview

Alation Cloud Service **Customer Managed**

To get the enhanced connector for ThoughtSpot, contact the Forward Deployed Engineering team at Alation.

This connector extracts ThoughtSpot objects such as Worksheets, Tables, Answers, Datasources, Liveboards, and Answers' measures and dimensions. Users will be able to search and find the ThoughtSpot objects and understand the business transformation on their data from the Alation user interface.

Team

The following administrators are required to install this connector:

- BI Admin:
  - Provides the ThoughtSpot URI
  - Provides the ThoughtSpot account with admin privilege
- Alation Server Admin:
  - Installs the connector
  - Creates a BI source

- Configures the BI source

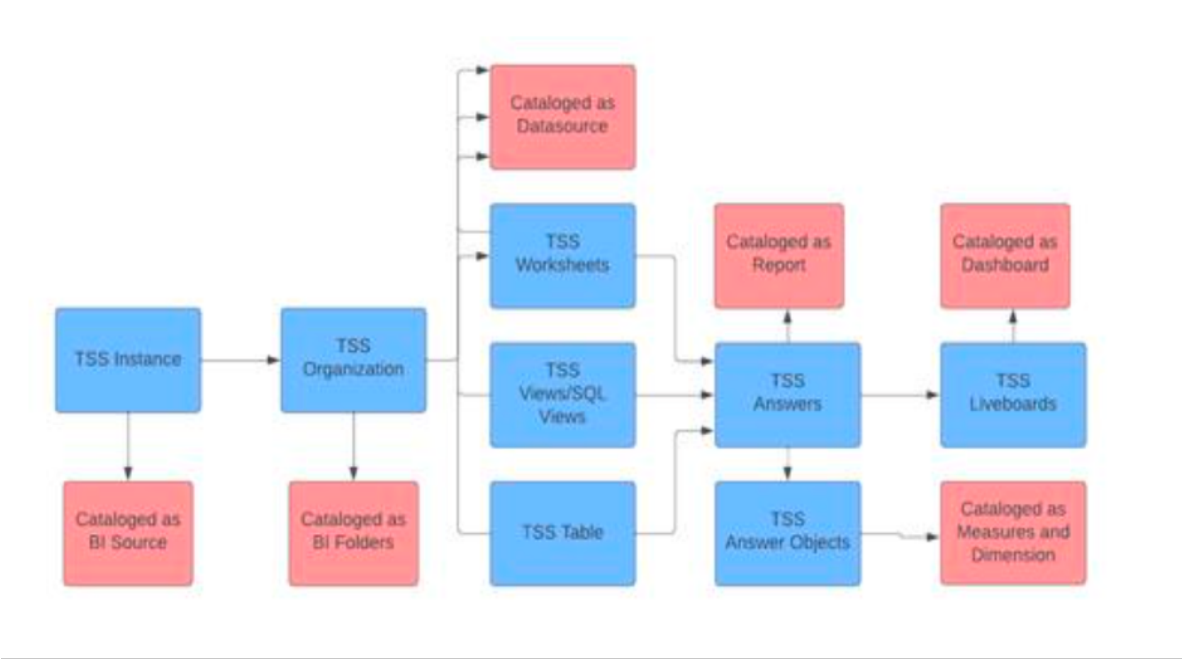
Scope

The table below describes which metadata objects are extracted by this connector and which operations are supported.

Feature	Scope	Availability
Metadata extraction	Extract the metadata in *Object Mapping*	Yes
Report Lineage	Intra-system lineage - Example: Worksheet to Answers to Liveboards	Yes
Cross System Lineage	End-to-end lineage at the system level from the RDBMS data source to the ThoughtSpot data source. Example: Snowflake Table to ThoughtSpot worksheet	Yes
Colum Level Lineage	Column level lineage refers to the ability to trace columns across data sources in the “Lineage” tab for a catalogued object	No
ThoughtSpot Object Usage Statistics	Popularity on Answer and Liveboard	Yes
Permission Mirroring	Replicate ThoughtSpot permissions into Alation	Yes
Report/Dashboard Previews	Image Previews or Report thumbnails stored in Thoughtspot	No
Link to Source System	Navigation(navigation link to the object in ThoughtSpot	Yes
Selective Extraction	Ability to apply filters on Organization	Yes
Full Extraction	Ability to run full extraction on the ThoughtSpot instance	Yes

Object Mapping

The diagram and table below describe which metadata objects are extracted by this connector and how they are m



Connector API Methods

The following table lists the ThoughtSpot APIs used by this connector to extract metadata from ThoughtSpot:

Type	Category	Endpoint	Description
Organization	BI Folders	/api/rest/2.0/orgs/search	The multi-tenancy feature logically partitions a ThoughtSpot cloud instance into multiple tenant-specific environments called Orgs
Worksheet	BI Datasource	/api/rest/2.0/metadata/search	Logical views of data to model complex datasets
Table	BI Datasource	/api/rest/2.0/metadata/search	Tables imported from external source system
View/SQL view	BI Datasource	/api/rest/2.0/metadata/search	Virtual tables created by saving a ThoughtSpot data search
Liveboard	Dashboard	/api/rest/2.0/metadata/search	Dashboards, collections of Answers
Answers	Report	/api/rest/2.0/metadata/search	Saved results of any search
Answers Measure	Measure and Measure expression	/api/rest/2.0/metadata/search	Numerical data can be found on the y-axis of the Answer
Answers Attribute	Dimension	/api/rest/2.0/metadata/search	Text or date/date-time values can be found on the x-axis of the Answer

2.4.2 Prerequisites

Alation Cloud Service | Customer Managed

Alation Agent

To install and use this connector the /cloud/AlationAgent/index is required for all ACS customers.

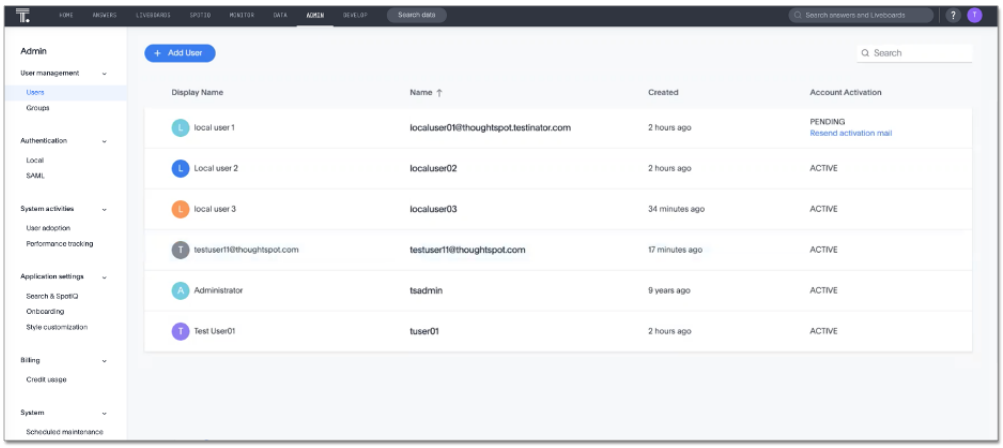
Credentials

The ThoughtSpot connector supports basic authentication using the ThoughtSpot username and password. This account is created in ThoughtSpot's *Service Account* section.

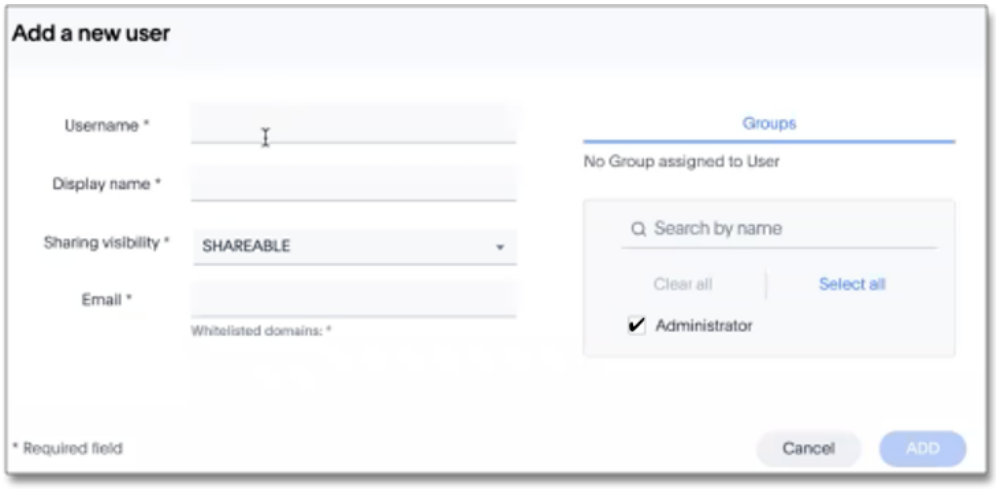
Service Account

Follow the steps below to create a ThoughtSpot user with admin privileges:

1. Navigate to the ThoughtSpot Admin Console by selecting the **Admin** tab from the top navigation bar.
2. Select **Users** from the side navigation bar that appears.



3. Select the **+Add User** button on the upper-left side of the list of users.
4. In the **Add a new user** page, enter the details for the new service account user. Note that the user creates their password as part of the activation process. Ensure you select the **Administrator** group to assign the required admin privileges to the user.



5. Select **ADD** to create the user.

URI

Note the URI of your ThoughtSpot instance. The URI format should be **https://<your-thoughtspot-instance>.thoughtspot.cloud/**.

2.4.3 Set Up the ThoughtSpot BI OCF Connector

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After fulfilling the *Prerequisites*, install the connector in Alation and create a ThoughtSpot BI data source.

Install the Connector

Customer-Managed Instances

Installation of enhanced connectors on customer-managed instances requires Alation Connector Manager to be installed as a prerequisite. To install a connector:

1. If this has not been done on your instance, install and configure the Alation Connector Manager: /sources/OpenConnectorFramework/OCFInstallAlationConnectorManager.
2. Ensure that the connector Zip file you received from Alation is available on your local machine.
3. Install the connector Zip file on the **Connectors Dashboard** page using the steps in /sources/OpenConnectorFramework/ManageConnectors/index.

Alation Cloud Service Instances

On Alation Cloud Service (ACS) instances, the Alation Agent is mandatory for installing enhanced connectors.

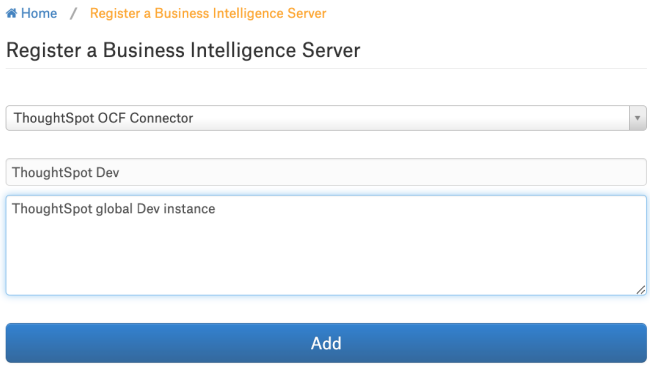
To install a connector on the Agent:

1. Ensure that /cloud/AlationAgent/index is enabled on your Alation instance. If necessary, create a Support ticket with Alation for an Alation representative to enable it.
2. Install the Agent using the instructions in /cloud/AlationAgent/InstallingTheAlationAgent.
3. Install the connector on the **Connectors Dashboard** page using the steps in /sources/OpenConnectorFramework/ManageConnectors/index.

Create a New BI Server Source

To create a BI source:

1. Log in to the Alation instance and add a new BI Server source: Apps > Sources > Add > BI Server. The **Register a Business Intelligence Server** modal will open.
2. From the **Select a Business Intelligence Server type** list, select **ThoughtSpot OCF Connector**, enter a **Title** and optional **Description**.



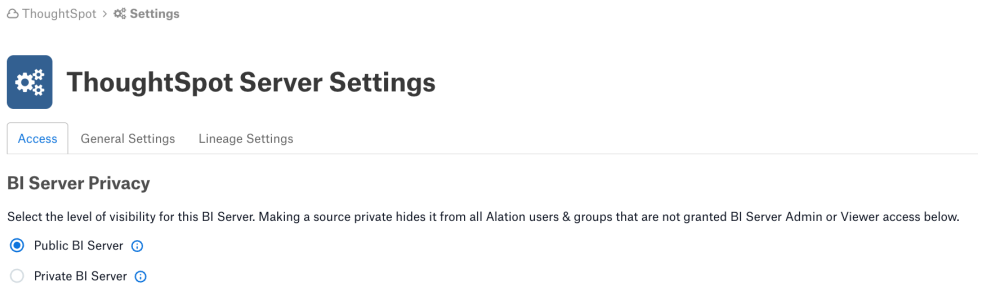
3. Click **Add**. You will be navigated to your Server source settings page.

2.4.4 Configure Connection to the ThoughtSpot BI Source

Alation Cloud Service | **Customer Managed**

Configuration

Navigate to the Alation settings page for your ThoughtSpot BI Server configured in the previous step, and click the **Access** tab. Set the **BI Server Privacy** to Public or Private depending on your requirements.



In the **General Settings** tab, configure the connection to the ThoughtSpot BI server using the credentials you generated in the *Prerequisites* steps:

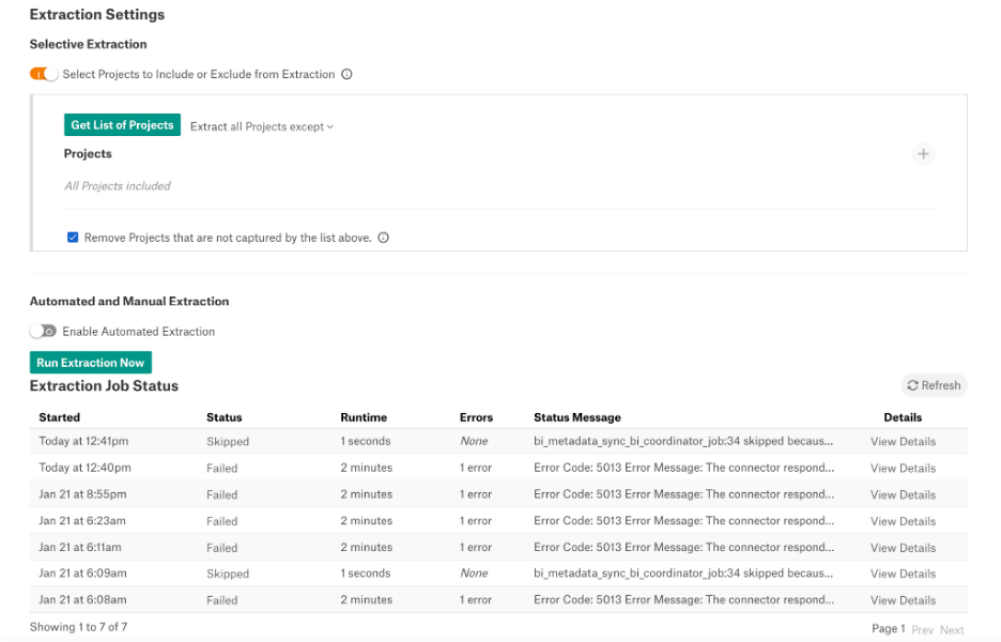
Parameter	Description	Default value	Example value
Server URI	The URI of the BI server. This is used to redirect users when they wish to access a given object on the BI server via Alation		**https://yourcompany.thoughtspot.clo**
Company Name	Company name provided along with the license key from the license file		<your organisation name>
License Key	License key for the connector		Please contact your Alation for this
URI	The URI of the ThoughtSpot Server		**https://yourcompany.thoughtspot.clo**
Username	The username of the ThoughtSpot service account		*Service Account*
Password	The password of the ThoughtSpot service account		*Service Account*

2.4.5 Configure Metadata Extraction

Alation Cloud Service **Customer Managed**

To perform metadata extraction (MDE) follow these steps:

1. Under **Extraction Settings**, turn on **Selective Extraction**, if required. Selective extraction settings are used to apply a filter to include or exclude a list of projects.



2. Click **Get List of Projects** to first fetch the list of projects from ThoughtSpot
3. The status of the Get Projects action is logged in the **Job History** table at the bottom of the Settings page.
4. Once the folder synchronization is successful, a drop-down list of projects will become enabled. Select one or more projects to apply the filter.
5. Check you are using the desired filter option. Available filter options are described below:

Filter Option	Description
Extract all Projects except	Extract metadata from all projects except from the Folders selected.
Extract only these Projects	Extract metadata from only the selected Projects.

6. Click **Run Extraction Now** to extract metadata. The status of the extraction action is also logged in the **Job History** table at the bottom of the page.
7. If you wish to automatically update the metadata in the Catalog, under **Automated and Manual Extraction**, turn on **Enable Automated Extraction** and select the day and time when metadata must be extracted. The metadata extraction will be automatically scheduled to run at the selected day and time.

2.4.6 Configure Lineage

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The enhanced OCF connector for ThoughtSpot automatically calculates lineage information during metadata extraction. Table-level lineage is supported by the connector. You also have the ability to configure cross-system lineage to automatically generate lineage between your ThoughtSpot BI source and RDBMS data sources.

Both data sources must already be configured and cataloged in Alation.

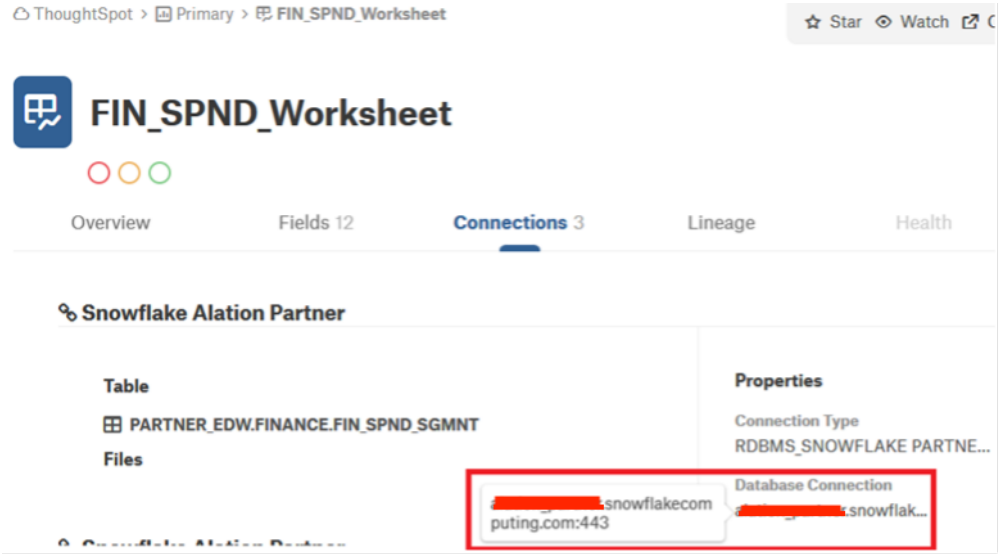
Lineage

To enable cross-system lineage, the **BI connection info** needs to be configured on the database's data source page.

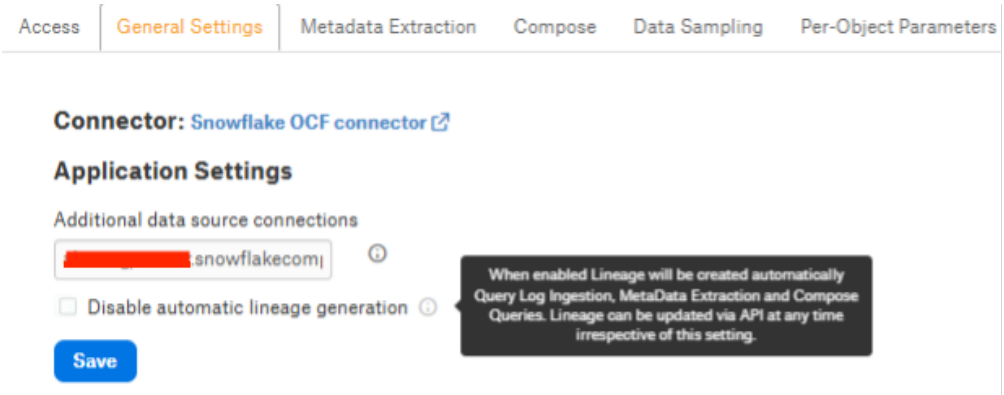
Parameter	Description	Example value
Additional data source connections	The BI source connection that is connecting to an RDBMS source	my-org.snowflakecomputing.com:443

Here are the steps to configure the **Additional data source connections**:

1. In Alation, copy the **Database Connection** value from the **Connections** tab of one worksheet in the ThoughtSpot source.



2. Open the Snowflake data source's **General Settings** Tab and paste the value from Step 1 into the **Additional data source connections** field. The UI may vary depending on the Alation version.



3. Rerun the ThoughtSpot metadata extraction job. The cross-system lineage will now be displayed in the **Lineage** tab.

2.4.7 Troubleshooting

Alation Cloud Service | Customer Managed

Problem	Guidance
Test Connection failure - Error extracting token	Please ensure Server Connection values are correct
Test Connection Failure - Invalid License Key	Please ensure a valid License key has been obtained from Alation and is applied in the connector settings
Link to Source System is not navigating correctly. The link shows as “None”	Please enter the correct Server URI. Example: **https://org.thoughtspot.cloud/**
Permission Mirroring is not working	**Please uncheck the Disable Permission Enforcement setting, lik**  If checked, Alation will not mirror BI permissions. Note this flag does not disable permission extraction on the connector side.
Heap Memory Error during MDE Extraction	Please check the current memory allocation of your connector from the logs. 1 GB is the minimum memory requirement. Please contact Alation Support if you need to increase connector memory

CHAPTER

THREE

FDE SERVICES

The FDE team builds solutions that extend the value of the Alation platform for our customers.

In this section:

3.1 Alation Automation Bots

Alation Cloud Service **Customer Managed**

Alation Automation Bots are specialized automation applications that help eliminate manual, repetitive tasks. It monitors the contents of the Alation Data Intelligence Platform and triggers notifications via a Conversation, assigned task, or other action.